

# National measurements of food losses in Sweden



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# Targets for food loss and waste reduction

*Decided by the Swedish government in 2020*

## Food losses

- By 2025, an increased share of the food production should reach retailers and consumers.

## Food waste

- From 2020 to 2025, the total amount of food waste should be reduced by at least 20 % by weight per capita.



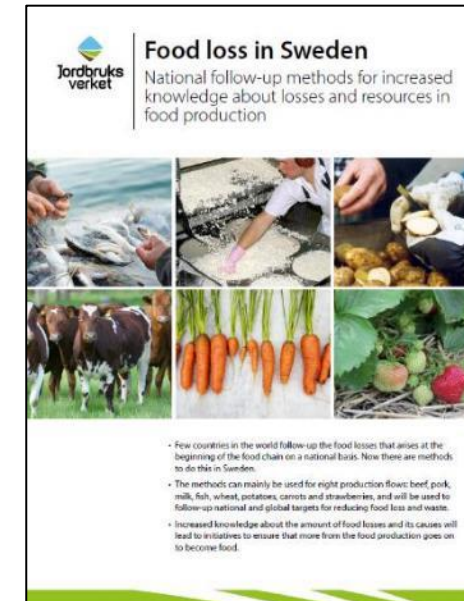
# Methodology

## National measurement of food losses in Sweden



Collaboration authorities, researchers & farmers/industry representatives

- 8 products: beef, pork, milk, seafood, grain, potatoes, carrots and strawberries



Method report in 2021 - Food loss in Sweden

# The objectives for the food loss measurements

- Volume and share of production that was intended to become food but did not move to the next stage in food chain
- Factors behind losses
- Destinations
- Proposed improvements



# Seven reports about food losses, soon to be nine



**Förluster av griskött, nötkött och mjölk på gården**  
En delrapport inom projektet Nationell uppföljning av livsmedelsförluster

Report 2022:18



**Livsmedelsförluster vid slakt av grisar och nötkreatur**  
Delrapport genomförd av Sveriges lantbruksverket inom projektet Nationell uppföljning av livsmedelsförluster

Report 2022:19



**Livsmedelsförluster vid produktion av morötter**

Report 2022:20



**Livsmedelsförluster vid produktion av jordgubbar**

Report 2022:21



**Livsmedelsförluster av potatis vid odling, skörd, lagring och packeri**

Report 2022:22



**Livsmedelsförluster vid produktion av kvarnvetet**

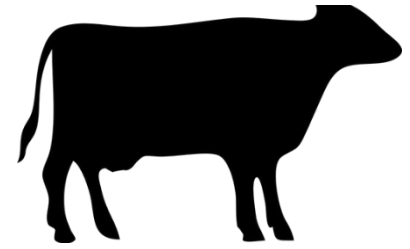
Report 2022:23



**Pilotstudie om matsvinn och restprodukter i livsmedelsindustrin**

Report 2022:24

Coming soon: Food losses of fish and shellfish & Summary report Summaries in English



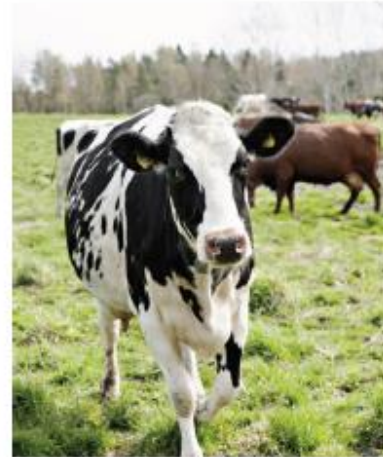
## Beef losses at farm 2020

- National bovine register CDB – covers death and slaughter of all cattle. Using slaughtered weight at death for the same categories at slaughter
- **15 % of the cattle** were euthanized or found dead (incl. stillborn and newborn calves)
- **8 % of beef production** in Sweden goes to waste (incineration), 13 200 tonnes of beef in slaughtered weight
- Household slaughter – 3 % is not a food loss
- Small loss at transport and rejections at slaughter

## Dairy cows and calves

Table 1.  
Food losses presented in share  
of number of animals and share  
of slaughtered weight.

Type	Loss % by number	Loss % by slaughtered weight
Beef cows	0,9 %	1,2 %
Males	0,9 %	0,9 %
Heifers	1 %	1,1 %
Milk cows	3,5 %	3,5 %
Calves	4,9 %	1,3 %
Still born/ dead first week	3,8%	0,3 %
<b>Total loss</b>	<b>14,8 %</b>	<b>8,3 %</b>



## Losses at farm of beef, pork and milk in 2020

- **0,4 % of milk production – 11 000 tonnes**

Data on milk lost due to cow on treatment for mastitis or leg/feet injuries

- **3 % of pig production – 7 000 tonnes** in slaughtered weight

Data on mortality from production monitoring programme covering about 40 % of production

- **8 % of beef production - 13 200 tonnes** in slaughtered weight



- Invest even more in the welfare and health of milk cows, cows and piglets, better stables, technology, research, monitoring etc
- Investigate if emergency slaughter and slaughter at farm can increase



# Over 40 percent of edible byproducts did not become food

## Beef

- **42 %** (13 000 tonnes) of the edible byproducts was not used for food in 2020

## Pork

- **47 %** (24 000 ton) of the edible byproducts was not used for food in 2020

Large slaughter companies sell more for food use by exporting

Most went to biogas, a smaller share to feed or incineration

Data from

82 % of slaughter of cattle

89 % of slaughter of pigs



# Factors behind losses and waste

- Taking care of the byproducts is too costly compared to the price
- Consumer preferences we used to eat more liver, heart, tongue
- Almost no blod goes to food – 13 000 tonnes

➤ Promote trade and export, more innovations and product development, simplify the control of food/feed

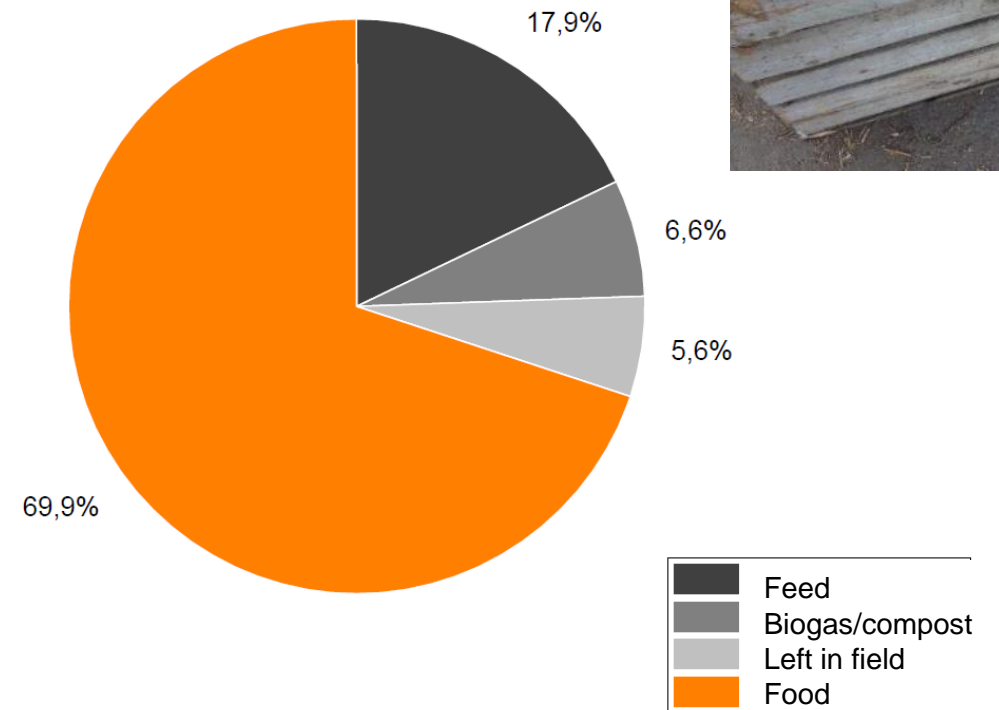


156 millions of potential portions of black pudding going to anarobic digestion/biogas

## One third of carrots grown in Sweden were not sold for food use

- 7 % left in field after harvest - case studies in 2020 at six farms (7000 ton for all Sweden)
- 26 % (30 000 ton) was discarded in packeries – 13 packeries covering 90 % of production

Destinations for carrots



Casual factors of **discarded** carrots at packeries:

- 30 % were broken (A)
- 32 % were rotten/mouldy (RM)
- 32 % were too small (FL) or too big (FS)

➤ Discuss the quality requirements with retailers increase processing, prevent storage diseases, better sorting and harvest machines, drainage and new varieties



Photo: SLU

# 17 procent of the winter potatoes were not sold for food use

- Almost 11 % loss at farm – 46 700 ton
  - Most left in field or composted (79 %), a smaller share to feed (20 %)Field study at 12 farms, data and interviews from 12 other farms
- 7 % food losses at packeries - 28 300 ton – animal feed, biogas/compost

- Invest in farming, harvesting and storage technique, plant protection, drainage,
- More processing and increase sale of potatoes with skin discoloration



## Large quantities of strawberries left in the field

- Up to half of the strawberries left in field after harvest 2022– most were first class quality (small case study)
- About 20 % of harvested strawberries did not reach the fresh market - most composted at farm, some processed at farm (survey to 25 % of growers production)




- Strawberries are harvested ripe and are sensitive to handling.
- Labour shortage forced producers to turn to harvesting new fields.
- Secure availability of harvest personnel, improve forecasting tools, evaluate farming methods, improve flexibility in market channels



# Milled wheat

- Pre-harvest losses **3 procent** (55 000 ton) (national statistics)
- Large variation - at some farms up to 17 % pre-harvest losses
- Small losses **at harvest 1,7 %.**
  
- 5 out of 15 growers got milled wheat **downgraded** to feed (4-28 % of volume)
- Large volumes of **wheat bran utilized as feed**, about 20 % of the milled wheat



➤ Reduce wildlife damage, plant protection, climate resilient varieties, use more wheat bran in food products?

# Food industry

Interviews – pilot study, 20 larger food industries

- Dairy
- Meat processing
- Fish processing
- Grains and bakery
- Potatoe processing
- Carrot processing
- Jam

## Results

- In some industries, **20 to 50 percent is production residues** *whey, skim milk, wheat bran, brine, potato peel, carrot offcuts.*
- Industries without production residues – **often just a few percent FLW.** *product at floor, cleaning, returns, mistakes, passed shelf life*
- Primarily went to feed or biogas, smaller amounts to incineration





# Food losses from a sustainability perspective



## Beef, pork and milk losses at farm

= 330 000 ton CO<sub>2</sub> a year. Amounting 9 % of greenhouse gas emissions from all animal husbandry in Sweden



6 percent of the production value of cattle and pig production  
200 million SEK lost income for potato growers 2021



The food loss of potatoes amounting 1,6 million Swedes  
yearly potato consumption



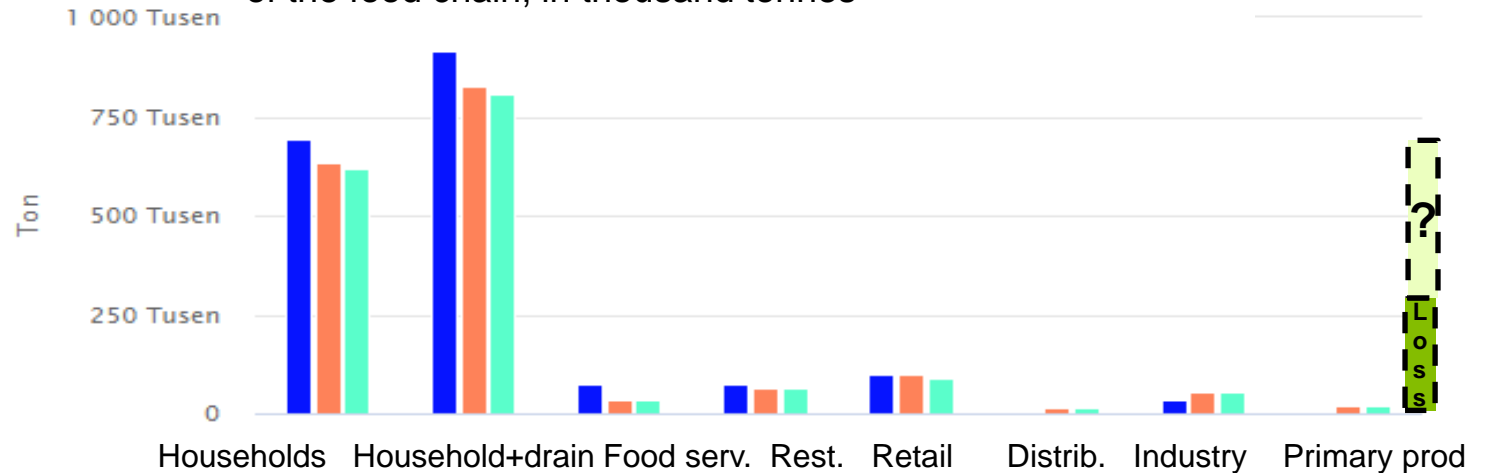
# Food losses in a reporting perspective

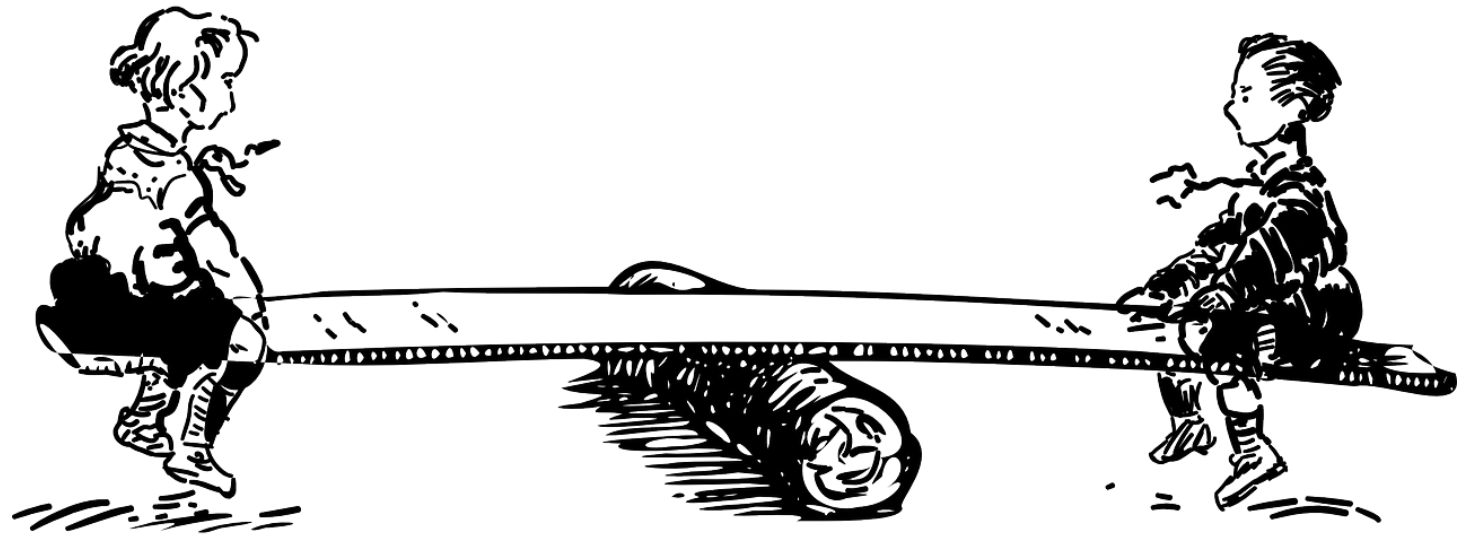
- Food Waste data doesn't include food losses

- Preliminary results from just eight commodities:

~300 t.tonnes food losses in primary production, packeries and slaughter

Food waste in Sweden 2018, 2020, 2021 at different stages of the food chain, in thousand tonnes





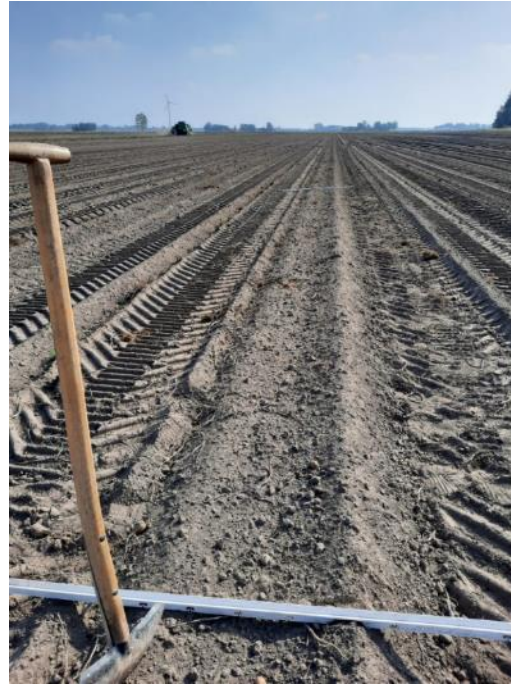
## Our next steps



- Fish and summary report
- Communicate results
- Discuss with and involve actors - voluntary agreement
- Measure progress towards national and global goals



# Thank you!



Photos: Nordfalan / SLU



# Methodology



## Definitions

Include all destinations asking "What was intended for food but did not continue the food chain"?

## Scope

Including pre-harvest and pre slaughter/catch when data is available  
(wild life damage statistics, national bovine registry..)

## Cover

Pre-harvest/pre-slaughter losses/wildlife damage – national data

Field studies – case studies

Packing/slaughter– national data

Industry – case study + national data

